



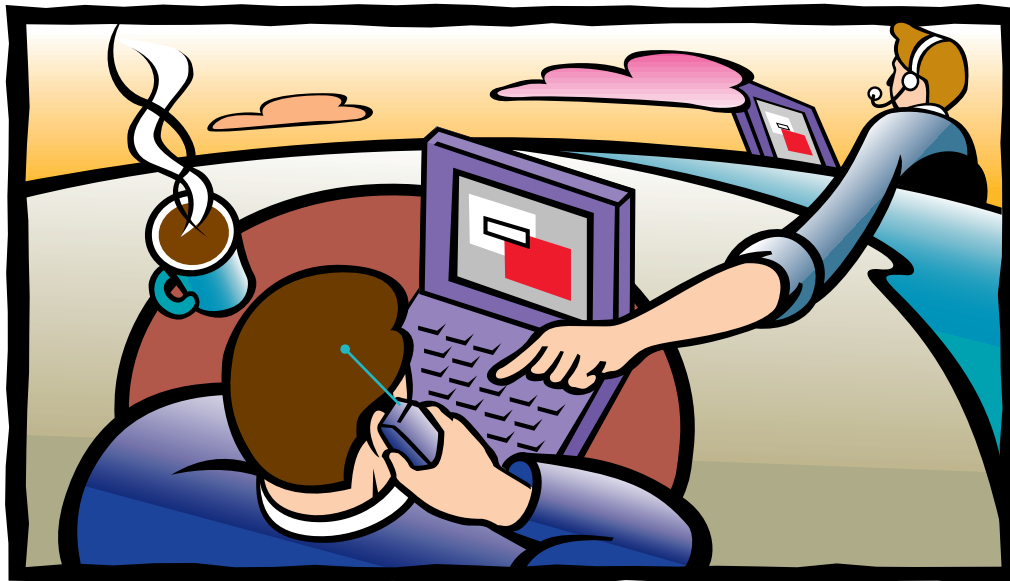
Remote Management

Making managing mobile computers easier.

There has been very little technical support for notebook computer users away from the office. If their system failed on the road, their best option was technical support advice over the phone. Now, there are technologies being developed which provide solutions for effectively managing remote and notebook PCs dialed into a network. Results will be shorter downtimes, lower support costs and the ability to do advanced troubleshooting.

User Benefits:

- Extends DMI to allow for remote management of mobile clients
- Improves manageability of mobile PCs
- Works across multiple operating systems, protocols and computer platforms
- Reduces technical support time and costs

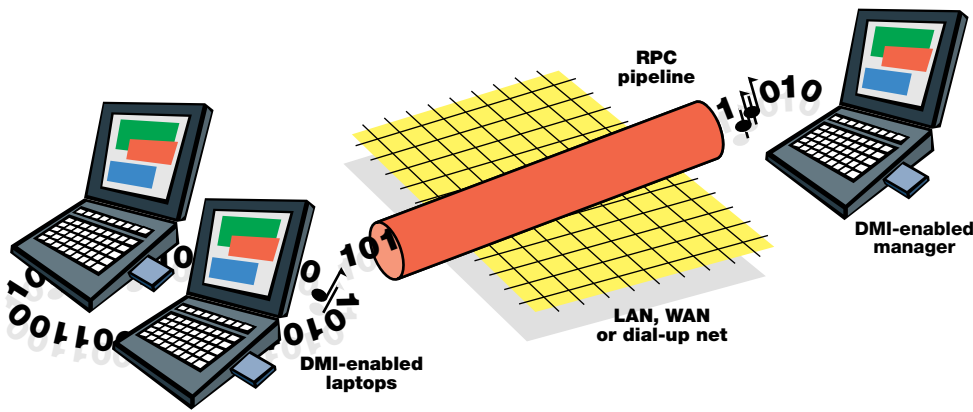


Desktop Management Interface (DMI) 2.0 includes a new procedural interface that provides tremendous value to network managers by bringing DMI's management capabilities to LANs, WANs and to modem-equipped notebook users. Key to the implementation of the procedural interface are widely implemented Remote Procedure Calls (RPCs). While DMI defines how management information is gathered, the procedural interface enables RPCs to set up pipelines between the management application and network devices so information can be exchanged.

By making use of DMI 2.0 and the procedural interface, management products can share information regardless of the computer platform, operating system or network software being used. Consequently, support personnel can deal directly with a problem without having to struggle with all the usual roadblocks. Tasks like remotely configuring notebooks, examining a BIOS, downloading drivers to a selective set of network clients, or installing a new application on a user's notebook can easily be done from a single workstation or remotely.

For management software vendors, DMI 2.0 and the procedural interface means they are able to participate by supporting or including code for one or all of the RPCs in their applications. Consequently, more of their energy and resources can be focused on developing products that simplify activities such as network monitoring, tracking information, inventory and asset management, and troubleshooting.

As DMI, the Procedural Interface and RPCs continue to grow in implementation, laptop computers, notebooks and services will become increasingly more manageable. The Desktop Management Task Force that created these specifications was formed in 1992. Since that time, over 120 companies have become involved in DMTF management efforts and DMI-enabled products are increasing at a rapid rate. Designed to complement plug and play, these protocol-independent, multiplatform interfaces for managing PCs and network devices continue to build momentum throughout the industry.



How Does Remote Management Work?

DMI's procedural interface is a new Applications Programming Interface (API) that allows RPCs to set up pipelines between a management application and managed devices. To understand the API's role and purpose, it's important to understand how DMI works within the remote notebook system.

The DMI specification consists of four parts:

- Service layer
- Management Information Format (MIF)
- Management Interface (MI)
- Components Interface (CI)

The service layer is the part responsible for managing DMI activities.

It collects information from products, stores it as a MIF in a database, and passes the information to various management applications on request. MIF information is important because it resides in devices like servers, notebook PCs and printers and describes the manageable attributes of those devices. The MI and CI handle the communication between management applications and the managed devices through the service layer. The MI handles requests to the service layer from management applications, while the CI enables managed products to talk to the service layer in response to requests or to send an unsolicited notification of an important occurrence, such as a device error.

In DMI 1.1, the MI and CI APIs use a "block interface." This interface works well within the local machine, but is difficult to use with remote systems using industry standard RPCs. As a result, the DMTF is defining a new procedural interface for the MI and CI APIs.

DMI 2.0's new procedural interface comes into play when management applications want to access information from DMI-compliant devices across a connection. The procedural interface facilitates the connection using an RPC. Working independent of the operating system and network, RPCs can connect over a LAN, WAN or dial-up telephone link.

The Software Working Committee of the DMTF is developing an industry standard using the MIF language for software products to identify themselves to the management applications. DMI 2.0, with the procedural interface, and RPCs are responsible for controlling the exchange of this information across the network. Software vendors are being encouraged to implement the Software Standard MIF Definition to make their products easier to support, install, inventory, audit, and, in general, manage. By complying with this standard, software vendors can expect greater sales potential for their products. For the network manager, the improved ability to track actual software usage should result in lower software costs.

For more information on mobile technologies, please access Intel's home page on the World Wide Web at:

<http://www.intel.com/>

For more specific information on DMI 2.0 and the procedural interface, please refer to the following web site:

<http://www.intel.com/ial/dmtf/index.html>
<http://www.dtmf.org/>

For additional copies, call 1-800-346-3028 and ask for literature order number 242969-001

Technology Highlights:

- Procedural Interface created by the Desktop Management Task Force (DMTF)
- Works with any network connection—LAN, WAN or telephone link
- DMI's procedural interface supports most popular RPCs
- Over 120 companies already participating in DTMF management efforts

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